Sodium Metaarsenite

National Cancer Institute

Source

National Cancer Institute. Sodium Metaarsenite. NCI Thesaurus. Code C91098.

A highly soluble, orally available trivalent arsenic-containing telomerase inhibitor with potential antitumor activity. Although the exact mechanism through which sodium metaarsenite exerts its effect has yet to be fully elucidated, this agent appears to target and bind to telomeric sequences, specifically TTAGGG repeats, leading to a shortening of telomeres, and subsequent induction of apoptosis and inhibition of tumor cell growth. In addition, sodium metaarsenite also leads to the translocation of the catalytic subunit of telomerase into the cytoplasm and inhibition of the activity of telomerase. Telomerase is active in most tumors cells and is responsible for the maintenance of telomere length and plays a key role in cellular proliferation, but is quiescent in normal, healthy cells. The susceptibility to sodium metaarsenite seems to be inversely correlated with initial length of telomeres.